



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-0861; Directorate Identifier 2012-NM-074-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes. This proposed AD was prompted by reports of the loss of the fixed frequency system, leading to the loss of power to the left and right buses and all systems serviced by these buses. This proposed AD would require modification of the wiring and changes to existing airworthiness limitations. We are proposing this AD to prevent loss of the fixed frequency system, which could lead to loss of a number of the pilot's and co-pilot's flight instruments, in addition to other avionics systems.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; e-mail [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7301; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0861; Directorate Identifier 2012-NM-074-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

The Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-09, dated February 15, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

There have been several reported occurrences of the loss of the 400Hz [hertz] Fixed Frequency System, leading to the loss of power to the Left 115VAC [alternating current] bus, the Right 115VAC bus, the Left 26VAC bus, the Right 26VAC bus and all systems serviced by these four electrical buses. The loss of the 400Hz Fixed Frequency System has been attributed to a failure of one or two static inverters, which resulted in the loss of the remaining inverters. The loss of systems serviced by the four fixed frequency electrical buses creates an unsafe condition due to the loss of a number of the pilot's and co-pilot's flight instruments, in addition to the other avionics systems.

This [Canadian] Airworthiness Directive (AD) mandates the wiring modification to untie the 400Hz inverters and additional Airworthiness Limitation tasks introduced as a result of this modification.

You may obtain further information by examining the MCAI in the AD docket.

#### **Relevant Service Information**

Bombardier has issued the following service information:

- Bombardier Service Bulletin 8-24-87, Revision B, dated April 3, 2012;
- de Havilland Dash 8 Series 100 Temporary Revision AWL-117, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 100 Maintenance Program Manual, PSM 1-8-7.
- de Havilland Dash 8 Series 200 Temporary Revision AWL 2-48, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 200 Maintenance Program Manual, PSM 1-82-7; and
- de Havilland Dash 8 Series 300 Temporary Revision AWL 3-118, dated

April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 300 Maintenance Program Manual, PSM 1-83-7.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **FAA’s Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 94 products of U.S. registry. We also estimate that it would take about 9 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$71,910, or \$765 per product.

#### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s

authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this

proposed AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**Bombardier, Inc.:** Docket No. FAA-2012-0861; Directorate Identifier 2012-NM-074-AD.

### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

### **(b) Affected ADs**

None.

### **(c) Applicability**

(1) This AD applies to Bombardier, Inc. Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, certificated in any category, serial numbers 002 through 672 inclusive.

(2) This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections). Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these actions, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (k)(1) of this AD. The request should include a description of changes to the required inspections that will ensure the continued operational safety of the airplane.

**(d) Subject**

Air Transport Association (ATA) of America Code 24; Electrical Power.

**(e) Reason**

This AD was prompted by reports of the loss of the fixed frequency system, leading to the loss of power to the left and right buses and all systems serviced by these buses. We are issuing this AD to prevent loss of the fixed frequency system, which could lead to loss of a number of the pilot's and co-pilot's flight instruments, in addition to other avionics systems.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Wiring Modifications**

Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first: Incorporate the wiring modifications specified in and in



accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-24-87, Revision B, dated April 3, 2012.

**(h) Airplane Maintenance Program Revision**

Within 30 days after the effective date of this AD: Revise the airplane maintenance program by incorporating Task 2420/13, Operational Check of Relays K4, K5, K6, and K7 (Post Modsum 8Q101917), in the applicable temporary revision specified in paragraph (h)(1), (h)(2), or (h)(3) of this AD. The initial compliance time for Task 2420/13 is within 18,000 flight hours after accomplishing the actions specified in paragraph (g) of this AD, or 30 days after the effective date of this AD, whichever occurs later.

(1) For Model DHC-8-102, -103, and -106 airplanes: de Havilland Dash 8 Series 100 Temporary Revision AWL-117, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 100 Maintenance Program Manual, PSM 1-8-7.

(2) For Model DHC-8-201 and -202 airplanes: de Havilland Dash 8 Series 200 Temporary Revision AWL 2-48, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 200 Maintenance Program Manual, PSM 1-82-7.

(3) For Model DHC-8-301, -311, and -315 airplanes: de Havilland Dash 8 Series 300 Temporary Revision AWL 3-118, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 300 Maintenance Program Manual, PSM 1-83-7.

**(i) No Alternative Actions or Intervals**

After accomplishing the revision required by paragraph (h) of this AD, no alternative actions (e.g., inspections) or intervals may be used, unless the actions and intervals are approved as an AMOC in accordance with the procedures specified in paragraph (k)(1) of this AD.

**(j) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-24-87, dated May 26, 2011; or Bombardier Service Bulletin 8-24-87, Revision A, dated October 5, 2011.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval

letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(l) Related Information**

(1) Refer to MCAI Canadian Airworthiness Directive CF-2012-09, dated February 15, 2012, and the service information specified in paragraphs (l)(1)(i) through (l)(1)(iv) of this AD, for related information.

(i) Bombardier Service Bulletin 8-24-87, Revision B, dated April 3, 2012.

(ii) de Havilland Dash 8 Series 100 Temporary Revision AWL-117, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 100 Maintenance Program Manual, PSM 1-8-7.

(iii) de Havilland Dash 8 Series 200 Temporary Revision AWL 2-48, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 200 Maintenance Program Manual, PSM 1-82-7.

(iv) de Havilland Dash 8 Series 300 Temporary Revision AWL 3-118, dated April 8, 2011, to Section AWL – Systems Maintenance, of Part 2, Airworthiness Limitations, of the Bombardier Dash 8 Series 300 Maintenance Program Manual, PSM 1-83-7.

(2) For service information identified in this AD, contact Bombardier, Inc.,

Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario  
M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; e-mail  
[thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may  
review copies of the referenced service information at the FAA, Transport Airplane  
Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the  
availability of this material at the FAA, call 425-227-1221.  
Issued in Renton, Washington, on August 22, 2012.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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